

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended) A method for the partial oxidation of hydrocarbons in a reactor to produce hydrogen and carbon monoxide comprising initiating ~~whereby initiation of~~ said partial oxidation is at a temperature as low as about 10°C or higher by the sequential steps of feeding natural gas into said reactor, injecting hydrogen into said reactor and feeding an oxygen-containing gas into said reactor, wherein said natural gas and said oxygen-containing gas contact ~~contacting~~ a reduced metal catalyst consisting essentially of a transition metal selected from the group consisting of nickel, cobalt, iron, platinum, palladium, iridium, rhenium, ruthenium, rhodium, osmium and combinations thereof supported on or in a ceria-coated zirconia monolith support ~~with a mixture of a hydrocarbon-containing feed gas and an oxygen-containing feed gas and hydrogen.~~

Claim 2 (original) The method as claimed in claim 1 wherein said hydrogen is injected into said feed gas mixture.

Claim 3 (original) The method as claimed in claim 2 wherein said hydrogen is injected between the addition of said hydrocarbon-containing feed gas and said oxygen-containing feed gas.

Claim 4 (original) The method as claimed in claim 1 wherein said temperature is greater than 10°C and less than 100°C.

Claim 5 (original) The method as claimed in claim 1 wherein said ceria-coated zirconia monolith support is about 5% to about 30% ceria by weight.

Claim 6 (original) The method as claimed in claim 2 wherein the injection flow of said hydrogen is for about 10 to about 30 seconds.

Claim 7 (original) The method as claimed in claim 1 wherein said hydrogen is obtained from the product hydrogen.

Claim 8 (original) The method as claimed in claim 1 wherein said feed gas is at a pressure of between 1 and 20 atmospheres.

Claim 9 (original) The method as claimed in claim 1 wherein said feed gas has a standard gas hourly space velocity of about 50,000 to about 500,000 per hour.

Claim 10 (original) The method as claimed in claim 1 wherein said feed gas has a linear velocity of about 0.2 to about 2.0 meters per second.

Claim 11 (original) The method as claimed in claim 5 wherein said hydrogen is present in an amount of about 0.5 to about 4.0 percent by volume of the total flow of said feed gas.

Claim 12 (Currently amended) A method for the partial oxidation of hydrocarbons in a reactor to produce hydrogen and carbon monoxide comprising initiating ~~whereby initiation of~~ said partial oxidation is at a temperature as low as about 10°C by the sequential steps of feeding natural gas into said reactor, injecting a continuous stream of hydrogen into said reactor, and feeding an oxygen-containing gas into said reactor, wherein said natural gas and said

oxygen-containing gas contact ~~contacting~~ a reduced metal catalyst consisting essentially of a transition metal selected from the group consisting of nickel, cobalt, iron, platinum, palladium, iridium, rhenium, ruthenium, rhodium, osmium and combinations thereof supported on or in a ceria-coated zirconia monolith support ~~with a mixture of a hydrocarbon-containing feed gas and an oxygen-containing feed gas and a continuous feed of hydrogen.~~

Claim 13, (original) The method as claimed in claim 12 further comprising adding a continuous flow of carbon dioxide to said feed gas.

Claim 14 (original) The method as claimed in claim 12 wherein said hydrogen is injected into said feed gas mixture.

Claim 15 (original) The method as claimed in claim 12 wherein said temperature is greater than 10°C and less than 100°C.

Claim 16 (original) The method as claimed in claim 12 wherein said ceria-coated zirconia monolith support is about 5% to about 30% ceria by weight.

Claim 17 (original) The method as claimed in claim 12 wherein said hydrogen is obtained from the product hydrogen.

Claim 18 (original) The method as claimed in claim 12 wherein said feed gas is at a pressure of between 1 and 20 atmospheres.

Claim 19 (original) The method as claimed in claim 12 wherein said feed gas has a standard gas hourly space velocity of about 50,000 to about 500,000 per hour.

Claim 20 (original) The method as claimed in claim 12 wherein said feed gas has a linear velocity of about 0.2 to about 2.0 meters per second.

Claim 21 (original) The method as claimed in claim 14 wherein said hydrogen is present in an amount of about 0.5 to about 4.0 percent by volume of the total flow of said feed gas.

Claim 22 (Currently amended) A method for the partial oxidation of hydrocarbons in a reactor to produce hydrogen and carbon monoxide by the steps of feeding natural gas into said reactor, feeding an oxygen-containing gas into said reactor, and feeding carbon dioxide into said reactor, wherein said natural gas, said oxygen-containing gas and said carbon dioxide contact ~~contacting~~ a rhodium catalyst supported on or in a ceria-coated zirconia monolith support ~~with a mixture of a hydrocarbon-containing feed gas and an oxygen-containing feed gas and carbon dioxide.~~

Claim 23 (original) The method as claimed in claim 22 wherein said carbon dioxide is present in said feed gas mixture in amounts up to about 80% by volume.

Claim 24 (original) The method as claimed in claim 22 wherein said feed gas is at a pressure of between 1 and 20 atmospheres.

Claim 25 (original) The method as claimed in claim 22 wherein said feed gas has a standard gas hourly space velocity of about 50,000 to about 500,000 per hour.

Claim 26 (original) The method as claimed in claim 22 wherein said feed gas has a linear velocity of about 0.2 to about 2.0 meters per second.

Claim 27 (original) The method as claimed 22 wherein said ceria-coated zirconia monolith support is about 5% to about 30% ceria by weight.

Claims 28-36 (canceled)

Claim 37 (Currently amended) A method for the partial oxidation of hydrocarbons in a reactor to produce hydrogen and carbon monoxide ~~by comprising the sequential steps of feeding natural gas into said reactor, injecting hydrogen at a pressure of about 1.0 bar to about 10.0 bar into said reactor, and feeding an oxygen-containing gas into said reactor thereby~~ contacting a reduced metal catalyst consisting essentially of a transition metal selected from the group consisting of nickel, cobalt, iron, platinum, palladium, iridium, rhenium, ruthenium, rhodium, osmium and combinations thereof supported on or in a ceria-coated zirconia monolith ~~support with a mixture of a hydrocarbon-containing feed gas and an oxygen-containing feed gas and hydrogen at a pressure of about 1.0 bar to about 10.0 bar.~~

Claim 38 (original) The method as claimed in claim 37 wherein said pressure is about 1.5 bar to about 3.0 bar.

Claim 39 (original) The method as claimed in claim 37 where the ratio of hydrogen to carbon monoxide produced by said partial oxidation is about 2:1 hydrogen to carbon monoxide.

Claim 40 (original) The method as claimed in claim 37 wherein said ceria-coated zirconia monolith support is about 5% to about 30% ceria by weight.

Claim 41 (original) The method as claimed in claim 37 wherein said transition metal is rhodium.